



Study on the Relationship Between Financial Constraints and Stock Return in Tehran Stock Exchange

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ABSTRACT

This survey is made on manufacturing firms accepted in Tehran Stocks Exchange during the period 2004-2008. The objective of study was to examine the firms' financial constraint of firms and to contribute firms and investors in identifying financially constrained firms and the effect these constraints have on stock return. Developed KZ (Kaplan and Zingales) index was used to measure financial constraint. Also, it has been attempted to measure the effect of firm's size on the financial constraint and stock return. Preceded by data analysis, variables reliability analysis, Chow and Hausman test were used to determine an appropriate model to estimate parameters and the effect of independent variable on dependent variable. Then, the research hypotheses were tested through random effects model. Data analysis revealed that the more the financial constraints in firms the less the firms' return and, also, the larger the firm's size the less the financial constrain and, consequently, the higher the return rate.

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Introduction

The economic enterprises and entities, particularly those active in the industry, needs financial resources for their survival and manufacturing activities as well as for activities development. They are strongly depended on financial markets and enterprises to fund their capital requirements. The role of these markets is to provide required resources for enterprises and firms (Firer & Mitchell, 2003). But, the rate of financial establishments and their conditions cause constraints for each firms referred to as financial constraints. Various types of funding resources fall into two categories of no-cost financial resources and cost financial resources. No-cost financial resources include cash advances from customers, commercial creditors, dividend payment and accrued expenses. The cost financial resources fall into two categories of internal resources (accumulated profit) and external resources (short-term and long-term facilities and the issue of new stocks) Izadnia & Rahimi Dastjerdi (2009); Titman & Grinblatt, (1998).

The importance of the prediction of stock return has encouraged researchers to investigate variables and indexes which have significant relationship with stock return and also variables which affect such relationship. They also looked for variables affecting stock return to make a decision based thereon. One factor that affects firms' stock return is the level of financial constraint. The term Financial Constraint (FC) was first proposed by FHP group (Fazzari, Hubbard and Petersen) in 1988. (Kudrimoti, 2008; Guariglia 2007). A major part of recent studies on firm's financial constraints is derived from Fazzari (1988) and, thereafter, Kaplan and Zingales (1997) work.

Lamont et al (2001) and Chan et al (2010) also state that financially constrained firms earn lower average returns than less constrained firms (Chan, Chang, Faff, Wong, 2010; Saa-Requejo, Polk, Lamont, 2001).

With considering that manufacturing firms in Iran as a result of many reasons such as stepping inflation have been always in financial pinch for many years we were to study whether it is applied to the Tehran Stock Exchange or not and, if applied, is there any similarity or difference between it and other efficient and experienced markets?

So, the main question of this research is posed as:

What impact does the firms' financing constraint have on their stock returns?

Although researches have been already made on financial constraint, the major difference between the present survey and previous studies is that the issue of firm's size is studied in association with financial constraint on stock return. In other words, it can be said that what makes our study different from other researches is the firm's size. Because it has been hypothesized that the financial constraints is not able to well show its effects on return alone and without taking into account the firm's size (Chan, Chang, Faff, Wong, 2010). Therefore, the second question is posed as:

What is the financially constrained firms' size effect on their stock return?

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Research Objectives

The general purpose of this research is to contribute organization to identify the effects of financial constraints on firm's function and to help investors to select appropriate investment firms.

Concept and Definition of Financial Constraint

With using samples of low dividend firms, FHP group scholars employed data from firms' financial statements and based on their liquidity reached the conclusion that investment-cash flow sensitivity criterion is the major ground of financial constraint. According to this group, firms are involved in financial constraint when there is wedge between internal financing and external fund (Fazzari, Hubbard, and Peterson, 1988; Saa- Requejo, Polk, Lamont, 2001). Using this definition, all firms can be considered as firms facing financial constraints but the levels of financial constraint differ among them.

This provides an appropriate framework to categorize firms based on their levels of financial constraint. When there is high difference between firm internal and external financing of investment funds, that firm faces higher financial constraint. In general, firms with no and/or less financial constraint have assets with a relatively high liquidation and high net assets. Of course, the existing ambiguity is that the difference between internal and external costs may be due to firm inside asymmetric information (Sinaei & Mahmoudi, 2005).

Whited and Wu (2006) state that the most important feature of financially constrained firms is their problem in accessing external financial resources (Whited, Wu, 2006).

According to Lamont et al. (2001) financial constraints are frictions that prevent firms from funding all desired investments. Inability to fund investment may be due to bad credit conditions and inability to obtain loan, and/or inability to issue new stocks or intangible assets. However, financial constraint cannot be synonym for financial pressure. Also, it may not be used as a synonym for bankruptcy risk, though they are undoubtedly related with financial constraint (Saa- Requejo, Polk, Lamont, 2001).

Another criterion which may imply financial constraint is information asymmetry. Information asymmetry means no appropriate access to firm's information by sponsors. Information asymmetries cause firms difficulties in obtaining external funds. According to Bernanke et al (1996) the smaller and younger firms are particularly susceptible to information asymmetries and there exists little information available about them and it is more difficult for financial enterprises to collect data about such firms. Therefore, these firms more likely have high costs of external financing. Also, dividend payment is considered a significant criterion for identifying financially constrained firms. Firms with high dividend payment have a good long-term financial perspective, while firms with low dividend payment have no appropriate financial perspective and face financial problems (Guariglia, 2007).

Firms Classification Based on Financial Constraints

Kaplan and Zingales (1997) employed qualitative and quantitative data collected to sort the firms into five groups:

First group: Not Financially Constrained. Firms classified in this group have high cash dividend, good liquidity for investment, sound financial status, less debt and more cash money. In this sample of firms there is high amount of internal funds and tangible assets.

Second group: Firms within this group have financially sound structure but they have no problem in liquidity limitation. Their aim is to have major cash reservoirs and an appropriate interest cover ratio and not to use credits. Firms classified in group one and two above can be identified by amounts of liquidity.

Third group: this group may hardly be classified in either not financially constrained or financially constrained groups. In these firms the limitation on fund financing is not addressed but they are not strong in terms of liquidity.

Fourth group: these firms face financing problems. For example, firms that postpone their dividend payment have little access over cash and firms that cut or reduce dividend payment are classified in this group.

Fifth group: this group is composed of all firms that undoubtedly face financing problems and constraint. They have problem paying their debts and, hence, they have difficulties obtaining funds and credits. In these firms the investment is reduced as a result of deficient liquidity. Also, they have high debt ratio, low cash flow as well as low dividend payouts.

Financial Constraint and Firm's Size

Fazzari et al. (1988) are among the first to propose the issue of financial constraint in association with firm's size. They used firm's size as a measure to define financial constraint (Guariglia, 2007). Preceded by Fazzari, Bernanke et al (1996) stated that since there is little information about smaller and younger firms and it is more difficult for financial enterprises to collect data about them, they more likely have higher costs of external financing. Thus, such firms face more financial constraint (Guariglia, 2007). Lamont et al (2001) stated that in contrast to this general belief that: smaller firms have higher potential for growth and return, these firms are less able to use credits. This causes these firms to face more financial constraint and, as a result, to obtain less return. Chan et al. (2010) used financial constraint index and firm's size to form a portfolio composed of firms with different degrees of financial constraint and different sizes. They reported that financially constrained firms tend to become smaller and to have lower dividend (or no dividend paid). Also, financial constraint in large firms is less often seen than in small firms.

Research Background

There are many researches made about financial constraints some of which are referred to as follows:

A group of researchers studied the impact of financing constraint on the firm's investment. FHP group in their studies concluded that the firms' investors are sensitive to operating cash flow. According to FHP group, less constrained firms show more investment-cash flow sensitivities (Fazzari, Hubbard and Peterson, 1988). But Kaplan and Zingales (1997) studied this for 49 low-dividend firms and they were to examine that does the investment-cash flow sensitivity provide appropriate criteria for defining firms with financial constraints? They analyzed and criticized the work of Fazzari. Steven, Glenn Hubbard and Bruce, Petersen concerning the relationship between firms' investment-cash flow sensitivity and financing constraints. Lamont et al. (2001) examined the relationship between financial constraint and stock return in American firms with growing sales over 1968-1997. They used Kaplan and Zingales (1997) sample for identifying financially constrained firms. They also separated financial constraint from financial pressure. The first result they obtained was that the financial constraint affects the firm's value over time, and the second result was that the financially constrained firms obtain a lower average return than unconstrained firms. And the third result they obtained was that financially constrained firms cannot earn significant return higher than average industry cycle. After data analysis they concluded that smaller firms facing financial constraints earn less return. Alessandra Guariglia (2007) used panel data to study the relationship between internal and external financial constraint on investment in a panel of 184 UK firms over the period 1993-2003. In addition to firms accepted in Stock Exchange, Guariglia made study on firms not quoted on stock market. According to him, there is a U-shaped relation between investment and cash flow. That is, when firm faces external financial constraint the investor's sensitivity to cash flow tend to increase. Chan et al (2010) studied the relationship between financial constraint and stock return in Australian firms over the period 1975-2004. They used the dividend changes as a factor to measure financially constrained firms. Since firms rarely cut dividend payment firms decreasing their dividends are the most likely to face financial constraint. The research result showed that the average stock return on financially constrained firms is less than unconstrained firms. Also, financial constraint is less observed in large firms than in small firms. Moreover, they indicated that financially constrained firms tend to be smaller in size and to pay less dividend (or zero-dividend).

During a survey in Iran, Kanani Amiri (2007) studied the relationship between financial constraint and stock return the result of which confirms the existing relationship. But, an important variable i.e. firm's size, which affects the study and can have significant impact on research results has not been taken into account in his research. After the above-mentioned variable had been added and the Kaplan and Zingales (1997) well-known model was used, the present survey involved in study and measure of financial constraints on stock return.

Research Hypotheses

H1: There is a significant relationship between financial constraint and stock return.

H2: Firm's size affects the relationship between financial constraint and stock return.

Sub-hypothesis 1: There is a significant relationship between firm's size and financial constraint.

Sub-hypothesis 2: There is a significant relationship between firm's size and stock return.

Operation Model and Variables of Research

Stock Return

In this research, the dependent variable is stock return. It is computed as follows [4]:

$$R = \frac{dt + pr + ps + (pn - p_0)}{p_0}$$

p_0 : ordinary share purchase price

pn : ordinary share selling price

pr : market value of priority

ps : bonus share value

dt : cash dividend over a given period

R : return on total ordinary share

Financial Constraint

Independent variable in this research is financial constraint that is measured with using KZ index modified by Chan et al (2010). This index is an ordered logit regression of five variables which is used to measure financial constraint using a linear regression as follows [11, 15 and 6]:

$$KZ = \beta_0 \times C_{it}/A_{it} + \beta_1 \times CF_{it}/A_{it} + \beta_2 \times D_{it}/A_{it} + \beta_3 \times L_{it}/A_{it} + \beta_4 \times M_{it}/B_{it}$$

CF_{it}/A_{it-1} = cash flow in year t / total assets value at the beginning of year

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CF_{it}/A_{it-1} = cash flow in year t / total assets value at the beginning of year

LEV = total debt / total assets

M/B = market value of the ordinary shares / book value of the ordinary shares

Classification of Iranian Firms on the Basis of Their Financial Constraints

Since the estimated financial constraints equation was first posed for US market the first step to calculate the coefficients of this model was to calculate these coefficients with internal data. For this purpose, according to study made by Chan et al. (2010) logit model with ordered data was used. Consequently, on the basis of firms' classification given, firstly we sorted the firms to five groups (from unconstrained firms to those facing a high level of financial constraint) and then estimated the financial constraint based on this sorting.

Firm's Size

In this research, the firm's size is moderator variable which is defined and estimated as follows:

Banz in 1981 and Fama and French in 1992 defined the size variable as market equity as follows:

Shareholders' equity= Stock price at the end of financial year X number of ordinary shares published

Hypotheses Testing Procedure

Before data analysis, the reliability of research variables was examined. For this purpose, Levin and Lin test as well as Im, Pesaran, Shin test were used. Firstly Chow and Hausman diagnostic test was conducted to determine an appropriate model for estimation and the impact of independent variable on dependent variable. Chow test is used to determine pooled data model versus fixed effects model and Hausman test is used to determine fixed effects model versus random effects model. The estimations required for the hypotheses testing were made after determining an appropriate model to estimate the parameters and the impact of independent variable on dependent variable.

Population and Statistical Sample

Statistical population of this research was all manufacturing corporations listed on Tehran Stock Exchange which have the following conditions:

- (1) The corporation has no negative or very high market to book value ratio.
- (2) Their financial years are closed on March 20 of each year.
- (3) Firms should have no activities in investment industries, banks and Financial Intermediation.
- (4) Information related to their financial statements should be available for 2004 to 2008 and the corporation should not be suspended or excluded over the same period. 109 corporations were selected as sample using the criteria above and the data for five-year period were derived from financial statements. EViews software was used to estimate the model.

The Reliability of Research Variables

Before data analysis, the reliability of research variables was examined. The reliability of research variables means that the mean and the variance of variables through time and the covariance of variables have been constant for different years.

As a result, using these variables in model may not cause false regression. For this purpose, Levin and Lin test as well as Im, Pesaran, Shin test were used the results of which are as displayed in Table 1. As illustrated in Table 1, the P-value for all variables is less than %5, thus, all research variables are at reliable level over the period of study.

Table 1. Results obtained from the reliability analysis of variables

SIZE	R	KZ	L/A	C/A	D/A	CF/A	B/M	Method / Variable	
2.524	4.066	11.411	7.251	4.160	7.277	-0.359	4.424	t statistic	Levin, Lin and Chow
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	P-value	
-2.347	-10.679	-28.644	-10.034	-23.017	-16.436	-44.625	-35.611	w statistic	Im, Pesaran and Shin
0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	P-value	

Fitting Research Model

Logit model with ordered data was used to customize the coefficients of KZ model. The results of this estimation are as shown in table below:

Table 2. Results of logit model for financial constraint classification in Iran

Variable	C/A	CF/A	D/A	L/A	M/B
Z-stat	- 3.950	- 7.994	- 5.364	8.436	6.156
p-value	0.0001	0.0000	0.0000	0.0000	0.0000
R ²					0.57

With considering the results of logit model (Table 2), since $P < 0.05$ the total relevant variables in the financial constraint estimation are significant. On the other hand, as the coefficient to determine the relevant model is 0.57, this indicates that the variables used to estimate financial constraint have good explanatory power. Also, the customized model of financial constraint is as follows:

$$KZ = - 47.85C_{it}/A_{it} - 12.81CF_{it}/A_{it} - 11.55D_{it}/A_{it} + 11.71L_{it}/A_{it} + .36M_{it}/B_{it}$$

Diagnostic Test in Pooled Data

Chow and Hausman tests were used to determine the model used in pooled data. Chow test was conducted to determine the application of the fixed-effects model versus the total data pool and its hypotheses are as follows:

- H_0 : Pooled Model
- H_1 : Panel Model

H_0 hypothesis states that there is no individual effect not observed and H_1 states that there is an individual effect not observed. Hausman test is to determine the use of fixed-effects versus random effects. Hausman test states that there is or isn't a relationship between the estimated regression error and the independent variables of model. If there exist such relationship a fixed-effect model and if does not exist a random effect model will be applied. H_0 hypothesis states that there is no relationship between independent variables and the estimation error and H_1 hypotheses states that there exists such relationship.

- H_0 : Random Effect
- H_1 : Fixed Effect

A) Chow Test (H1)

Chow test was used to determine the application of fixed-effects model versus the total data pool. Table 3 illustrates the results of this test:

Table 3. Chow Test

Test result	p-value	Degree of freedom	Statistic	Effects test
Panel data method	0.008	4539	3.482	F
	0.007	4	13.905	Chi-square

The results of test show that the F statistic value is 3.482 and p-value is 0.008. Therefore, H_0 hypothesis (pooled model) is not confirmed. In other words, there are individual or group effects and the panel data method should be used to estimate the model. In next step, Hausman test was used to determine the use of fixed-effects versus random effects model.

B) Hausman Test (H1)

Table 4 illustrates the results of Hausman test.

Table 4. Hausman Test

Test result	p-value	Degree of freedom	Chi-square statistic	Test summary
Random effects model	0.63	1	0.224	Random period

As the results of the chart displays, p-value is higher than 0.05. Therefore, H_0 hypothesis (random effects model) is confirmed. This means that there is no relationship between the estimated regression error and the independent variables. With considering the results of Chow test and Hausman test the most appropriate technique to estimate parameters and hypotheses test is the random effects model. The results of this test are as shown below:

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Table 5. Results of H1 testing with using random effects model

Test result	D-W Stat.	Prob.(F)	F	Adj-R ²	p-value	Coefficient	Variable
	2.014	0.010	6.638	0.19	0.000	21.777	C
Confirmation					0.01	1.714	KZ

Results of the model estimation using fixed- effects model (Table 5) indicate that the value of F statistic is 6.638, therefore it can be said that the hypothesis that the coefficient of all variables are simultaneously zero is rejected at 95% confidence level and, consequently, the model is significant. The value of Durbin-Watson statistic is 2.01 so the hypothesis on the correlation of error terms is rejected at the 5% significance level. The revised coefficient of determination of the model is 0.19, i.e. 19% of the dependent variable is explained by the independent variable. By taking into account the testing results, the coefficient of explanatory variable of the financial constraint (KZ) coefficient is -1.714117 at the 5% significance level. Therefore, H1 is not rejected at the 95% confidence level.

A) Chow Test (Hypothesis 2-1)

Table 6. Chow Test

Test result	p-value	Degree of freedom	Statistic	Effects test
Panel data method	0.017	4539	3.015	F

	0.016	4	12.063	Chi-square
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Results of this test show that the value of F statistic is 3.015 and p-value is 0.017. Thus, H_0 (pooled model) is not confirmed. In other words, there are individual or group effects and panel data analysis should be used for model estimation. In next step, Hausman test is used to determine the use of fixed effects versus random effects model.

B) Hausman Test (Hypothesis 2-1)

Table 7. Hausman Test

Test result	p-value	Degree of freedom	Chi-square statistic	Test summary
Random effects model	0.54	1	0.366	Random period

As the results of the chart displays, p-value is higher than 0.05. Therefore, H_0 (random effects model) is confirmed. This means that there is no relationship between the estimated regression error and the independent variables. With considering the results of Chow test and Hausman test, the random effects model is the most appropriate technique for parameters estimations and hypothesis testing. Table 8 depicts the results of this test:

Table 8. Results of sub-hypothesis (2-1) testing with using random effects model

Test result	D-W Stat.	Prob.(F)	F	Adj-R ²	p-value	Coefficient	Variable
	1.76	0.000	72.930	0.11	0.000	16.446	C
Confirmation					0.000	-2.415	SIZE

Results of the hypothesis testing with using random effects model (Table 8) indicate that the value of F statistic is 72.93, therefore it can be said that the hypothesis that the coefficient of all variables are simultaneously zero is rejected at 99% confidence level and, consequently, the model is significant. The value of Durbin-Watson statistic is 1.76 so the hypothesis on the correlation of error terms is rejected at the 5% significance level. The revised coefficient of determination of the model is 11.6, i.e. 11.6% of the dependent variable is explained by the independent variable.

By taking into account the testing results, the coefficient of explanatory variable of the firm's size (SIZE) coefficient is -2.41 at the 1% significance level. Therefore, H2 associated with firm's size and financial constraint is not rejected at the 99% confidence level.

A) Chow Test (Hypothesis 2-2)

Chow test was used to determine the application of fixed-effects model versus the total data pool. The results of this test are as shown in Table 9 below:

Table 9. Chow Test

Test result	p-value	Degree of freedom	Statistic	Effects test
Panel data method	0.008	4539	3.467	F
	0.007	4	13.848	Chi-square

Results of this test show that the value of F statistic is 3.467 and p-value is 0.008. Therefore, H_0 (pooled model) is not confirmed. In other words, there are individual or group effects and panel data analysis should be used for model estimation. In next step, Hausman test is used to determine the use of fixed effects versus random effects model.

B) Hausman Test (Hypothesis 2-2)

Table 10. Hausman Test

Test result	p-value	Degree of freedom	Chi-square statistic	Test summary
Random effects model	0.16	1	1.969	Random period

As the table results show the p -value > 0.05 . Therefore, H_0 (random effects model) is confirmed. This means no relationship between estimated regression error and independent variables. With considering the results of Chow test and Hausman test the random effects model appears to be the most appropriate method for parameters estimation and hypotheses testing. The results of hypothesis testing using this model are as displayed in Table 11.

Table 11. Results of sub-hypothesis (2-2) testing with using random effects model

Test result	D-W Stat.	Prob.(F)	F	Adj-R ²	p-value	Coefficient	Variable
	1.94	0.022	5.256	0.07	0.10	-42.361	C
Confirmation					0.02	10.732	SIZE

Results of hypothesis testing using random effects model (Table 4-21) show that the value of F statistic is 5.256, therefore it can be said that the hypothesis that the coefficient of all variables are simultaneously zero is rejected at 95% confidence level and, as a result, the model is significant. The value of Durbin-Watson statistic is 1.94 so the hypothesis on the correlation of error terms is rejected at the 5% significance level. The revised coefficient of determination of the model is 0.07, i.e. 7% of the dependent variable is explained by the independent variable. By taking into account the testing results, the coefficient of explanatory variable of the firm size (SIZE) coefficient is 10.73 at the 5% significance level. Therefore, the second hypothesis concerning the firm's size and stock return is not rejected at the 95% confidence level.

Conclusion and Suggestions

Results obtained from the first hypothesis testing show that there is a negative and significant relation between financial constraint and stock return. The reason is that the financially constrained firms encounter more financing problems. So, they have to obtain external funds. Loan is a way to get external funds and these firms need to spend a lot of money to obtain loan and to return it so that the income earned by such firms is spent to return the loans. This will reduce dividend payout which is a component of company's return and, as a result, the company's return will decrease. These findings are consistent with what other researches such as Lamont et al. (2001), Chon et al. (2010) reported.

Results from sub-hypothesis testing (2-1) shows that there is a negative and significant relation between firm's size and financial constraint. This research finding are consistent with what other researches such as Saprizo Horacio and Lu Zhang (2004), Chon et al. (2010) and Lamont et al. (2001) reported. These findings indicate that smaller firms have more problems with financing than larger firms (Saa-Requejo, Polk, Lamont, 2001; Stock and Watson, 1989), so that, according to Gary Gela (2007), smaller and younger firms have more problems with getting credit as a result of existing information asymmetries (Guariglia, 2007).

Results from sub-hypothesis testing (2-2) show that there exists a positive and significant relation between firm's size and stock return. These findings are in contrast to findings obtained in research made by Fama and French (1993), Barry, Wood and Rodriguez (1999). On the other hand, they are consistent with the findings of Lamont et al. (2001) which indicate that smaller firms have lower returns because of their inability to use credits. This is caused by low tangible assets of small firms to get loan (Saa-Requejo, Polk, Lamont, 2001).

It seems that the recent research is like facts of our country. Lastly, in line with firm's internal and external beneficiaries one can refer to the necessity of taking into account the firm's size for all beneficiaries. Therefore, since the larger-sized firms encounter with less financial constraint than small firms and, thus, they have access to higher return, the investors are recommended to pay more attention. Also, the managers are recommended to adopt proper financing methods in order to place the firm's minimal in the optimal domain of such constraint.

Regarding the generalization of the results obtained it is noteworthy that non-publishing of modified financial statements in Tehran Stock Exchange accounts for the impossibility of ignoring the effect of the variable of inflation which affect the return and research data.

References

- Aflatouni, A and Nikbakht, L. (2010). "Application of Econometrics in Investigations into Accounting, Financial Management and Economics", Tehran: Termeh Publications.
- Izadnia, N and Rahimi Dastjerdi, M. (2009). "Effect of Capital Structure on the Share's Rate of Return and Share Income", Journal of Accounting Investigations, No. 3, pp. 136-161.
- Zaranejad, M and Anvari, E. (2005). "Application of Pooled data in Econometrics", Journal of Economic Studies, Vol.2, issue 4, pp. 21-52."
- Sinaei, H & Mahmoudi, E (2005). "Study of the Impact of the Stock and Bonus Stock Issue on Stock Return in Tehran Stock Exchange", Journal of Accounting and Auditing Studies, Faculty of Management, Tehran University, No. 39.
- Kana'ani Amiri, M. (2007). "Study of the Relationship between Financial Constraints and Stock Return in Iran Capital Market", Shahed University Journal of Scientific Research, No.26, pp. 17-30.
- Chan, H., Chang, X., Faff, R., Wong, G. (2010). "Financial Constraints and Stock Returns — Evidence from Australia". Pacific-Basin Finance Journal 18, pp. 306-318.
- Chien-Ta, B. (2008). "Measuring Online Stockbroking Performance". Industrial Management, Data Systems Vol. 108 No. 7, pp. 988-1004.
- Fama, E. F., and French K. R. (1993). "Common Risk Factors in the Returns on Stocks and Bonds" Journal of Financial Economics, pp.33-56.

- Fazzari, S., Hubbard R. G, and Peterson, B.)1988("Financing Constraints and Corporate Investment". Brookings Papers on Economics Activity, pp.141-195.
- Firer, Steven; Williams, S. Mitchell) .2003("Intellectual Capital and Traditional Measures of Corporate Performance". Journal of Intellectual Capital, 4, (3), pp. 348-360.
- Kaplan ,N., Steven and Zingales, L.,)1997(." Do Investment- Cash Flow Sensitivities Provide Useful Measures of Financing Constraints Quarterly". Journal of Economic 112, pp. 169-215.
- Kudrimoti, S.,)2008("Two Essays on Financial Condition of Firms". Department of Finance, pp. 1- 88.
- Guariglia, A.,)2007("Internal financial constraints, external financial constraints, and investment choice". Journal of Banking & Finance 32, pp.1795–1809.
- Myoung Hwang, K.,)2009("Financial constraints and International Trade for Heterogeneous Firms", pp. 1- 91.
- Saa- Requejo, J., Polk, C., Lamont, O.) 2001 (."Financial constraints and stock returns". Review of financial studies 14, pp. 524-554.
- Sapriza, H., and Lu, Z., 2004. "A Neoclassical Model of Financially Constrained Stock Returns".
- Stock, J, and Watson M. W.) 1989(" .New Indexes of coincident and Leading Economic Indicators", in O. J. Blanchard and S. Fischer (eds), NBER.
- Titman, S.,M. Grinblatt (1998). "Financial Market and Corporate Strategy". Mc Grow –Hill, Inc.
- Whited, T., Wu, G.) 2006("Financial constraints risk". Rfs Advance access, published January 18, pp. 1-42.
- Zeghal, D., and Maaloul A.) 2010("Analyzing value added as an indicator of intellectual capital and its consequences on company performance". Journal of Intellectual Capital, Vol. 11 No. 1, 2010, pp. 39-60.

The aim of this study is to investigate the effect of the financial constraints on the relationship between cash flow and external financing of company listed in the Tehran Stock Exchange. This research is an applied-correlation study. Data was collected using information reported in the financial statements of companies listed on the Stock Exchange of Tehran. In order to fulfill the objectives of the study, two hypotheses have been developed. The sample of study included 126 companies over a five-year period from 2008 to 2014. To analyze the data, Excel and Eviews 7 software was used. To meas